Green Infrastructure & Stormwater Management CASE STUDY

Maguire Park

Location: 4910 Aurelius Rd., Lansing, MI
Client: City of Lansing Parks and Recreation
Design Firm(s): Bruce Stewart
Landscape architect/Project contact: Bruce Stewart
Email: DSCHAEFE@LANSINGMI.GOV
ASLA Chapter: Michigan

Project Specifications

Project Description: Project involved construction of a 24-car parking lot. All rain water from parking area is to drain into a rain garden and in significant storm events flow into the stream through a rock berm structure.

Project Type:
Open space - park
Part of a new development

Design features: Bioretention facility, rain garden, bioswale, and curb cuts.

This project was designed to meet the following specific requirements or mandates:
Local ordinance, developer/client preference

Impervious area managed: 5,000 sq/ft to 1 acre

Amount of existing green space/open space conserved or preserved for managing stormwater on site: 5,000 sq/ft to 1 acre

The regulatory environment and regulator was supportive of the project.

Did the client request that other factors be considered, such as energy savings, usable green space, or property value enhancements? Client requested naturalizing as much of the site as possible.

Cost & Jobs Analysis

Estimated Cost of Stormwater Project: $50,000-$100,000 (Public funding: Local)

Related Information: Not Available

Was a green vs. grey cost analysis performed? No

Cost impact of conserving green/open space to the overall costs of the site design/development project: A minimal increase in costs

Cost impact of conserving green/open space for stormwater management over traditional site design/site development approaches (grey infrastructure)? Significantly reduced costs (10% or greater savings).

Number of jobs created: 3

Job hours devoted to project:

Planning and Design: 80
Construction: 320
Annual Maintenance: 10

Performance Measures

Stormwater reduction performance analysis:

The detention basin with an integral rain garden was designed to hold over 4,000 CF of surface water or 2.5 times the 1,600 CF required by ordinance.

Community & economic benefits that have resulted from the project: Retained rain water on-site and replenish the available ground water table.